Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S1	1-571-478-11	SWITCH, SLIDE (SENS) (US, Canadian)	
S1	1-571-478-11	SWITCH, SLIDE (FM MODE) (AEP, E, G, IT)	
S2	1-571-478-11	SWITCH, SLIDE (MEGA BASS) (M43)	
		< TRANSFORMER >	
T1	1-404-444-31	TRANSFORMER, IF	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
*	3-379-346-01	MASTER CARTON, 5 SETS (M33:US)	
*	3-379-347-01	CUSHION (UPPER) (M33:US)	
*	3-379-348-01	CUSHION (LOWER) (M33:US)	
*	3-379-350-01	INDIVIDUAL CARTON (M33:AEP, E, G)	
*	3-379-352-01	CARDBOARD (M33:US)	
*	3-379-354-01	CARDBOARD (M43:US)	
*	3-379-356-01	INDIVIDUAL CARTON (M43:Canadian, AEP, E, IT)	
*	3-380-964-01	CUSHION (UPPER) (M43:US)	
*	3-380-965-01	CUSHION (LOWER) (M43:US)	
	3-755-143-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH, PORTUGUESE, DUTCH, SWEDISH, ITALIAN) (Canadian, AEP, E, G, IT)	
	3-755-143-21	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-795-748-21	SAFETY INSTRUCTIONS, HEADPHONE (US)	
	8-952-364-90	HEADPHONE MDR-W05L SET (M43:US)	
	8-952-447-90	MDR-006L/1 SET (M33:US)	
	8-953-314-95	HEADPHONE MDR-E757/BK SET (Canadian, AEP, E, G, IT)	

****

****

HARDWARE LIST

****

#1	7-685-104-01	SCREW +P 2X6 TYPE1
#2	7-685-106-19	SCREW +P 2X10 TYPE2 SLIT

SRF-M33/M43

SERVICE MANUAL

US Model
AEP Model
E Model
SRF-M33

US Model
Canadian Model
AEP Model
E Model
SRF-M43

This photo is SRF-M33.

This photo is SRF-M43.

SPECIFICATIONS

Frequency range

US, Canadian model

Frequency	Scan step
FM: 87.5 — 108 MHz AM: 530 — 1710 kHz	0.1 MHz 10 kHz
FM: 87.5 — 108 MHz AM: 531 — 1710 kHz	0.05 MHz* 9 kHz

AEP, E, G, IT model

Frequency	Scan step
FM: 87.5 — 108 MHz AM: 531 — 1602 kHz	0.05 MHz* 9 kHz
FM: 87.5 — 108 MHz AM: 530 — 1610 kHz	0.1 MHz 10 kHz

* The frequency display is raised or lowered by steps of 0.1 MHz. (Example: Frequency 88.05 MHz is displayed as "88.0 MHz".)

Intermediate frequency FM: 10.7 MHz
AM: 450 kHz

Antennas FM: Earphone cord antenna
AM: Built-in ferrite bar antenna

Output Earphone jack (stereo minijack)

Power output

M33	17 mW + 17 mW
M43	17 mW + 17 mW

(at 10% harmonic distortion)

Power requirement
3V DC, two R6 (size AA) batteries

Battery life

M33	Approx. 24 hours
M43	Approx. 23 hours

with Sony SUM-3 (NS) batteries

Dimensions Approx. 78 × 97 × 30 mm (w/h/d)
(3 1/8 × 3 7/8 × 1 3/16 inches) excl. projecting parts and controls

Weight Approx. 145 g (5.2 oz.) including batteries.

Accessories supplied
Stereo earphones (1)
Belt holder (1)

Design and specifications subject to change without notice.

MICROFILM

Features

- AM/FM stereo PLL (Phase Locked Loop) synthesized receiver.
- Up to 5 stations in each band, AM or FM can be preset in the desired order.
- MEGA BASS selector for powerful bass sound (SRF-M43 only).

Area	AM tuning interval	Time Display
US, Canadian model	10 kHz	12-hour system
AEP, E, G, IT model	9 kHz	24-hour system

Note on AM tuning interval and time display
The AM tuning interval and time display differs depending on areas. The tuning interval of this unit is factory-set to 10kHz or to 9kHz to match the frequency allocation system of the country as listed. You can change the interval. (See page4 "Changing AM Tuning Interval".)

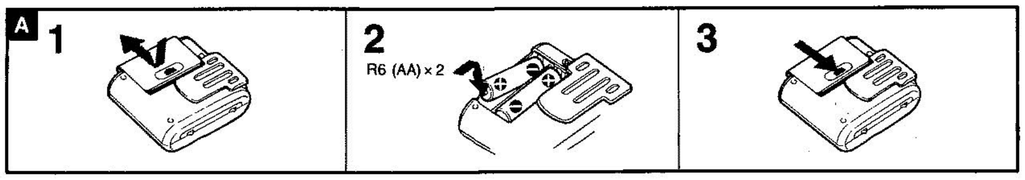
• G : Germany model
IT : Italian model

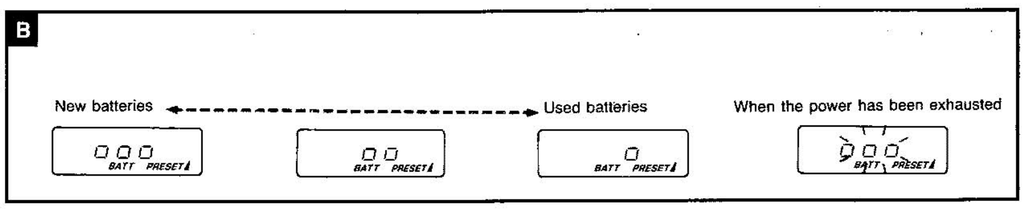
NOTES ON CHIP COMPONENT REPLACEMENT

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

AM/FM STEREO PLL
SYNTHESIZED RECEIVER

SONY®





Installing Batteries

(See illustration A.)

When to replace the batteries
When the batteries become weak, sound becomes weak or the stereo sound becomes monaural. When the batteries run down completely, the power is turned off and "0:0:0" in the display window brinks. When the power is turned on with the indication blinking, the power is turned off right away.
When "0:0:0" starts blinking, replace both batteries with new ones. After the batteries are replaced, turn the power on again to stop the blinking of the indication.

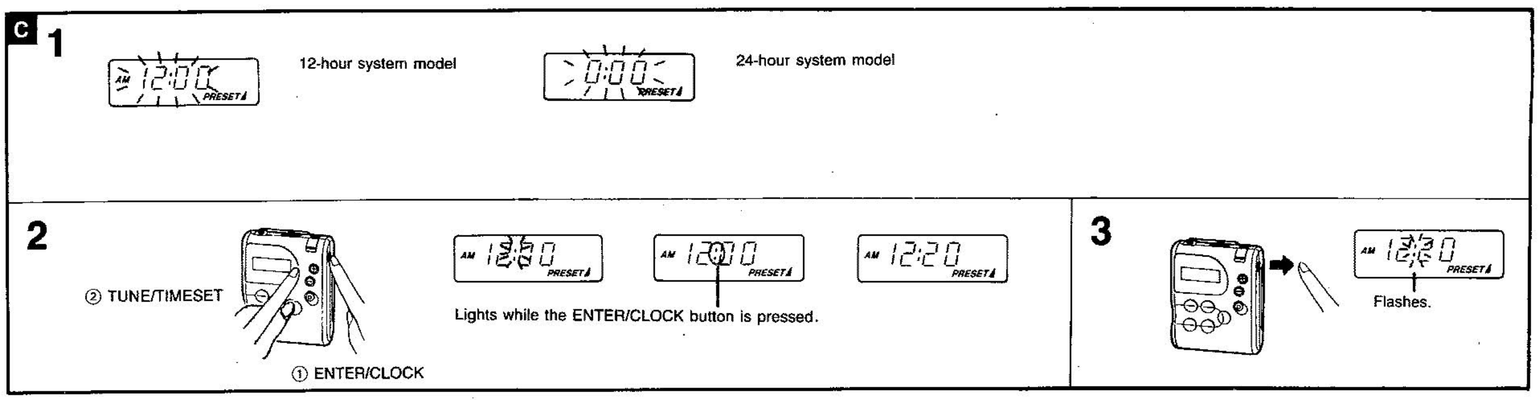
When replacing the batteries
Replace the batteries within about forty seconds. If you do not replace them within forty seconds, the preset stations may be erased, and "AM 12:00" (in US, Canadian model) or "0:00" (in AEP, E, Germany, Italian model) blinks in the display window.
For battery life, see "Specifications".

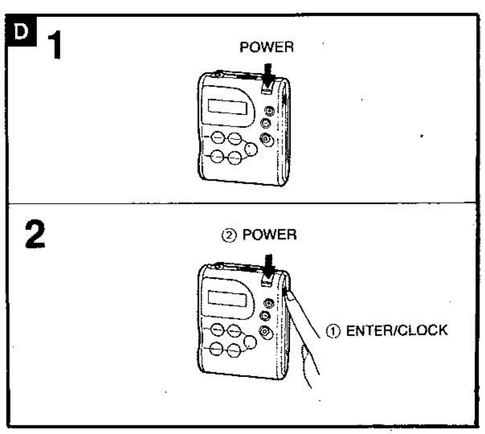
To avoid damage from battery leakage and corrosion
Remove the batteries when you do not use the unit for a long time.

When the batteries are removed for a long time
Preset stations are erased and "AM 12:00" (in US, Canadian model) or "0:00" (in AEP, E, Germany, Italian model) is displayed.
Store stations and reset the clock.

The indication of the power remaining in the battery
(See illustration B.)
When you turn on the unit, the power remaining in the battery is displayed for about one second and a half. The unit displays one of the four indications depending on the power remaining in the battery.

If you have any question or problem concerning your unit that is not covered in this manual, please consult your nearest Sony dealer.





Setting the Clock

(See illustration C.)

Set the clock or display time when the radio is turned off.

1 When you insert batteries for the first time, digits blink in the display window. To stop flashing, press the ENTER/CLOCK button.

12-hour system	24-hour system
AM 12:00 = midnight	0:00 = midnight
PM 12:00 = noon	12:00 = noon

2 While pressing the ENTER/CLOCK button, press the TUNE/TIME SET buttons ("+" or "−") to set the clock to the current time. Each time the TUNE/TIME SET button is pressed, the digits move forward or back by one. When you keep the button pressed, the digits change rapidly.
3 When you release the ENTER/CLOCK button, the clock starts to operate. If you release the ENTER/CLOCK button simultaneously with the time signal as it sounds, the clock starts from zero second.

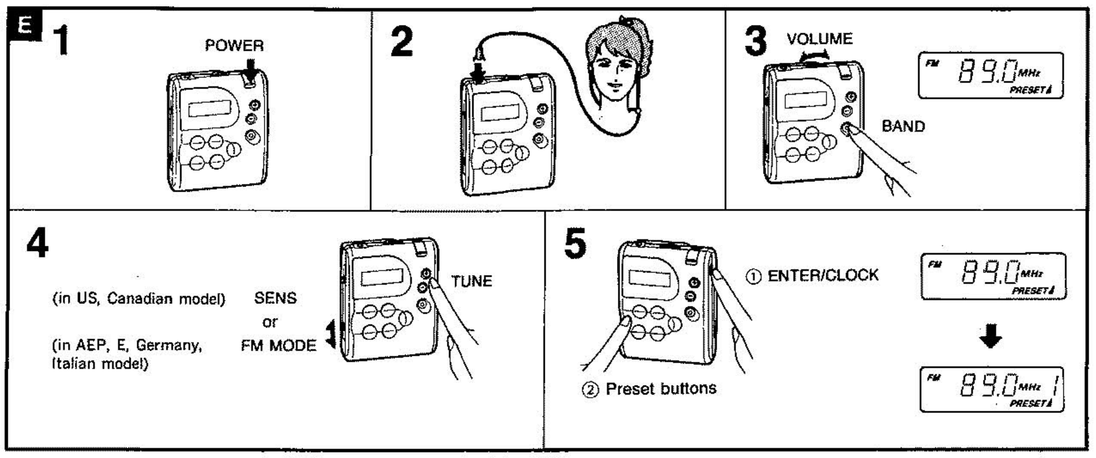
Changing AM Tuning Interval

(See illustration D.)

1 Turn off the power by pressing the POWER button, if it is turned on.
2 While pressing the ENTER/CLOCK button, keep pressing the POWER button for more than 5 seconds. The AM tuning interval has been changed. If you proceed step 2 again, the interval changes again.

Note
If you proceed with the steps above, the clock and the preset memory are erased, and "AM 12:00" blinks in US, Canadian model or "0:00" in AEP, E, Germany, Italian model.

SRF-M33/M43



Tuning in and Storing a Station

(See illustration E.)

1 Press the POWER button.
2 Connect the supplied earphones. When you listen to FM programs, extend the earphone cord fully.
3 Adjust the volume and select a desired band.
4 Tune in a desired station.
  +: To tune in a higher frequency.
  −: To tune in a lower frequency.
5 Store the station.
  While keeping the ENTER/CLOCK button (①) pressed, press the desired preset number button (②). Then the preset number appears in the display window. Repeat these steps for each station to be preset.
  Up to 5 stations in each band can be stored.

To change the preset station
Preset a new station to a desired preset button; the station previously preset for that button will be erased.

To turn off the radio, press the POWER button.

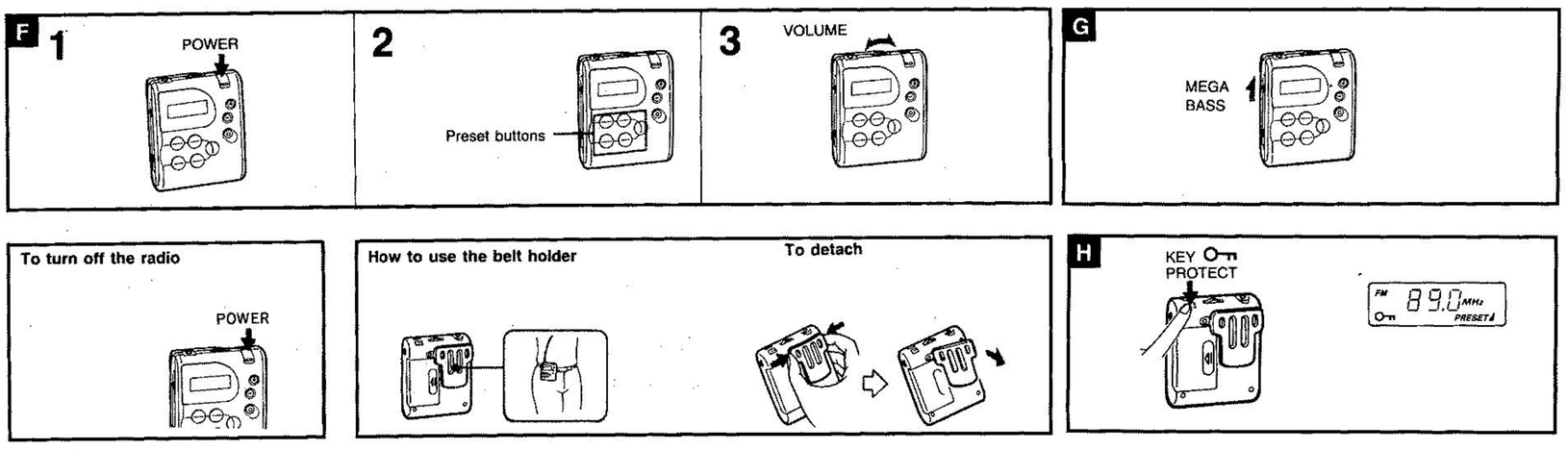
For Better Reception

FM reception
Extend the cord of the earphones so that the FM sensitivity will be increased, as it serves as the FM antenna.

AM reception
The ferrite bar antenna is built-in for AM reception. Rotate the unit horizontally for optimum reception.

SENS (FM/AM sensitivity) selector (in US, Canadian model)
DX: For FM reception, normally set it to this position.
LOCAL: Set it to this position, if a very strong station signal causes noise. The reception will be more stable and noise will be reduced.

FM MODE selector (in AEP, E, Germany, Italian model)
STEREO: For FM reception, normally set it to STEREO.
MONO: When it is hard to hear the broadcast due to noise, set it to MONO.



Listening to a Preset Station

(See illustration F.)

1 Press the POWER button.
2 Press the desired preset button.
3 Adjust the volume.

To Enjoy Powerful Bass Sound (SRF-M43 only)

(See illustration G.)

Set the MEGA BASS selector to ON to emphasize bass sound.

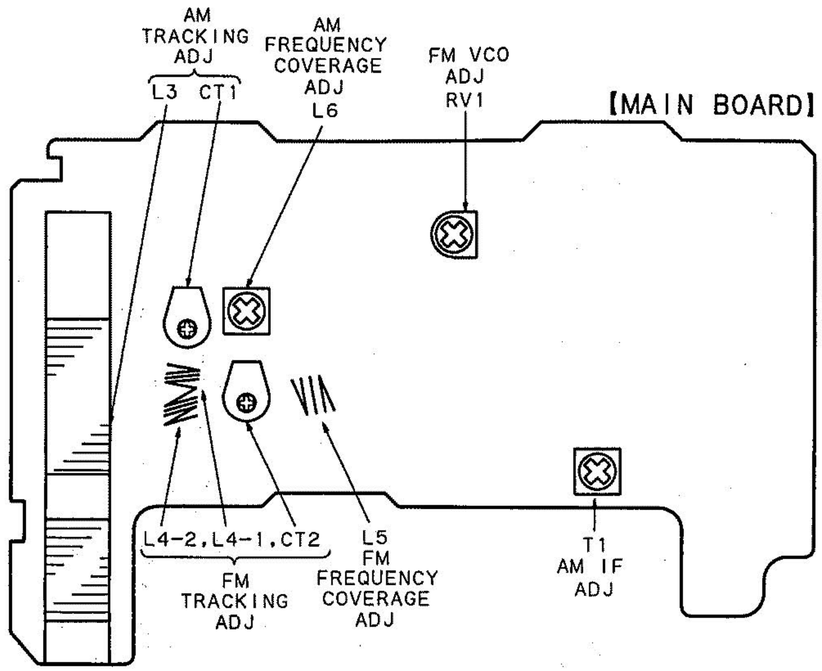
To Avoid Accidental Operation

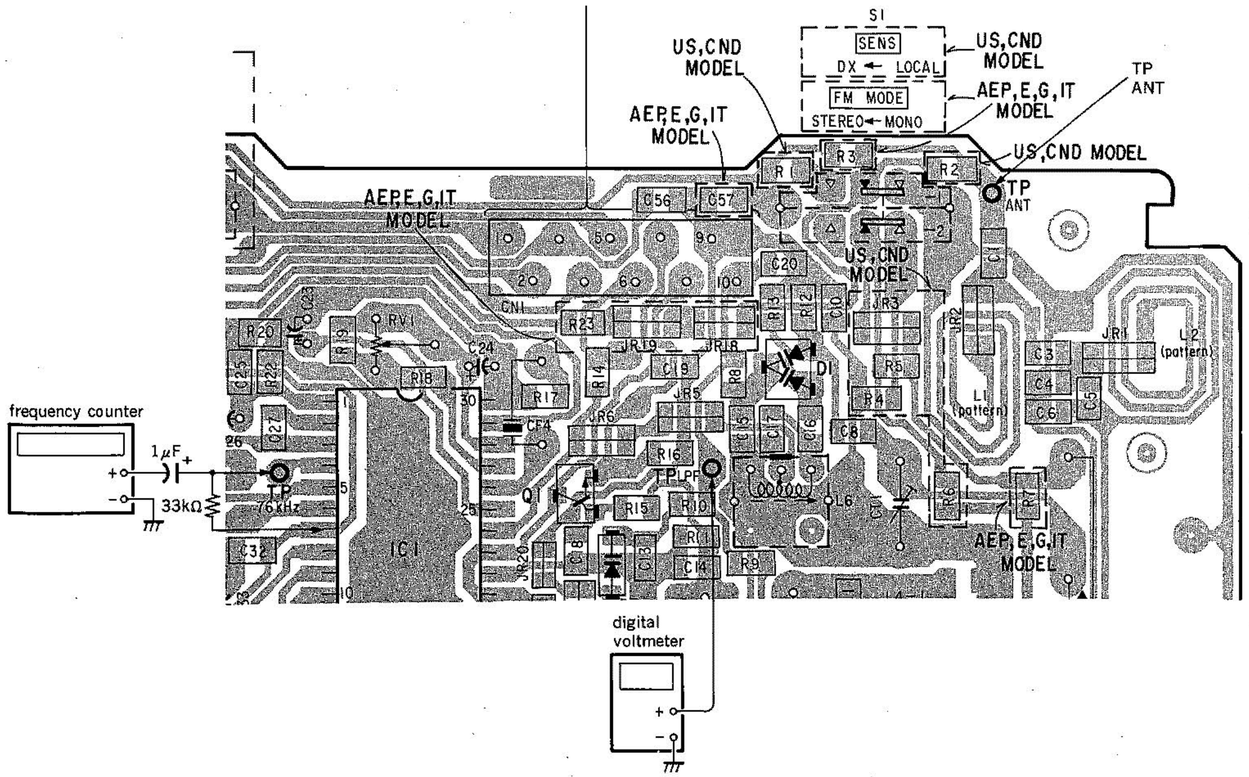
(See illustration H.)

Press the KEY Protect button. " " appears in the display window and the unit will not accept any operation.

To release
Press the button once again. " " will disappear.

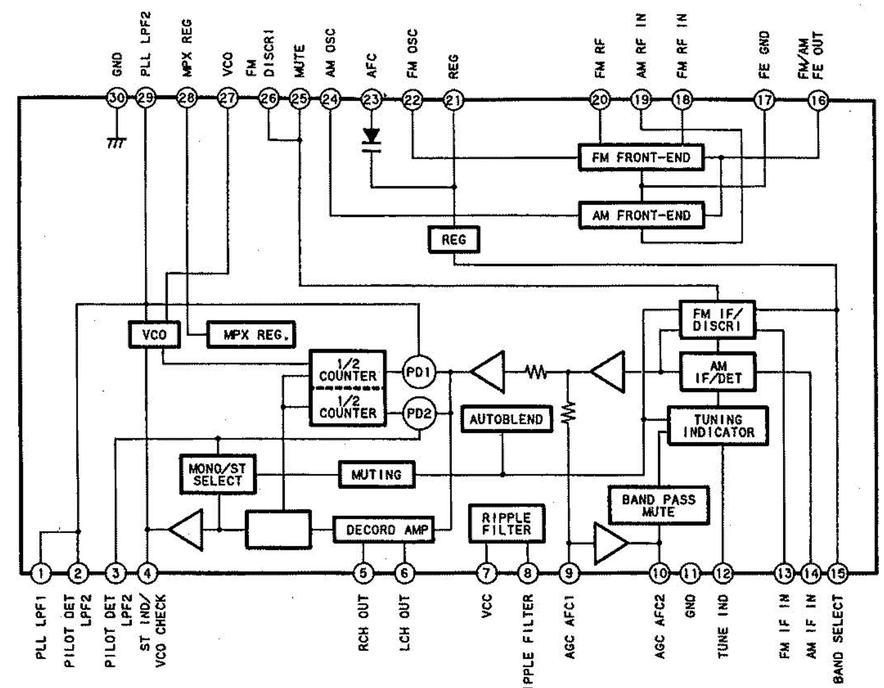
Adjustment Location : main board



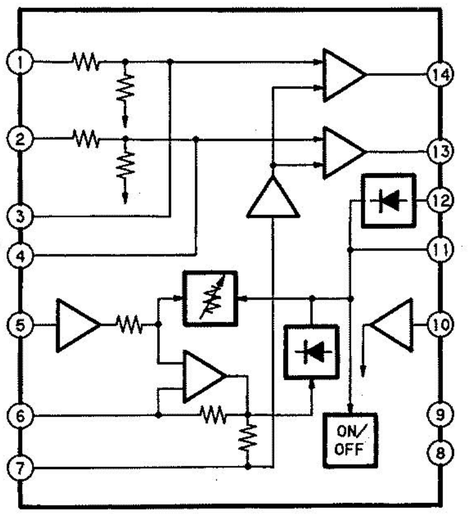


• IC Block Diagrams

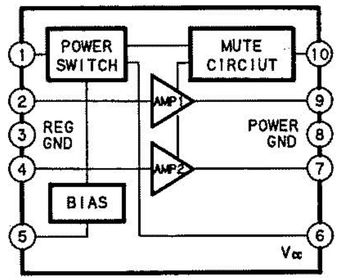
IC1 CXA1238M



IC2 CXA1249M



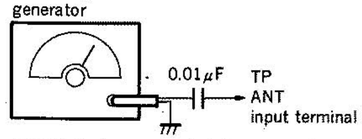
IC3 LA4533M



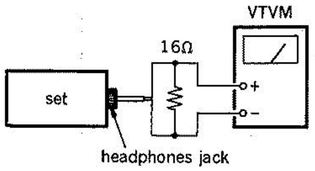
SECTION 2
ELECTRICAL ADJUSTMENTS

FM Section

FM RF signal generator

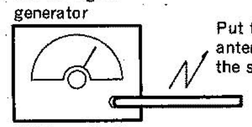


±22.5kHz frequency deviation
by 400Hz signal
Output level: as low as possible



AM Section

AM RF signal generator



30% amplitude
modulation by
400Hz signal
Output level: as low as possible

- Repeat the procedures in each adjustment several times, and the tracking adjustments should be finally the trimmer capacitors.

FM FREQUENCY COVERAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital voltmeter
L5	108MHz	8–12V
	87.5MHz	1.7–2.3V

Note: Not use the FM rf signal generator in this adjustment.

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT2	L4-1, L4-2
108MHz	87.5MHz

AM FREQUENCY COVERAGE ADJUSTMENT		
Adjustment Part	Frequency Display	Reading on Digital voltmeter
L6	530kHz (531kHz)	1.4V

Note: Not use the AM rf signal generator in this adjustment.

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT1	L3
1,490kHz (1,395kHz)	580kHz (621kHz)

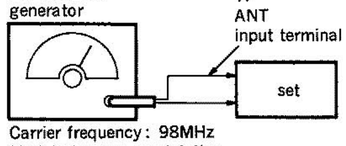
AM IF ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
T1	450kHz

Note: RECEIVE 1,710kHz (1,602kHz)
( ): AEP, E, Germany, Italian model

FM VCO Adjustment

Procedure:

FM rf signal generator



Carrier frequency: 98MHz
Modulation: no modulation
Output level: 1mV (60dB)

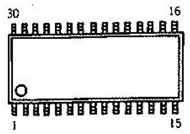
1. Connect frequency counter to it as shown below.
2. Tune the set to 98MHz.
3. Adjust RV1 for 76kHz±100Hz reading on the frequency counter.

Adjustment Location: main board

SECTION 3
DIAGRAMS

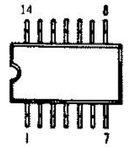
3-1. SEMICONDUCTOR LEAD LAYOUTS

CXA1238M



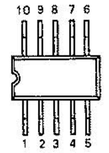
(Top view)

CXA1249M

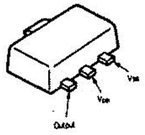


(TOP VIEW)

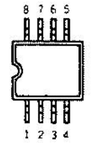
LA4533M



S-8052ANB-NE-S

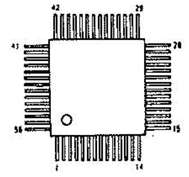


μPC393G2



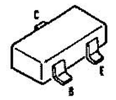
(TOP VIEW)

μPD1724GB-586-1A7

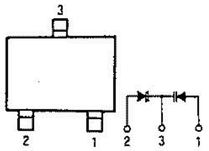


MARKING SIDE VIEW

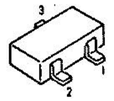
2SA1162
2SB1197K-R
2SC1623-L5L6
2SC2223-F13



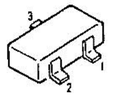
KV1560



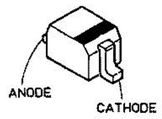
RD13M-B2



1S2836



1T32



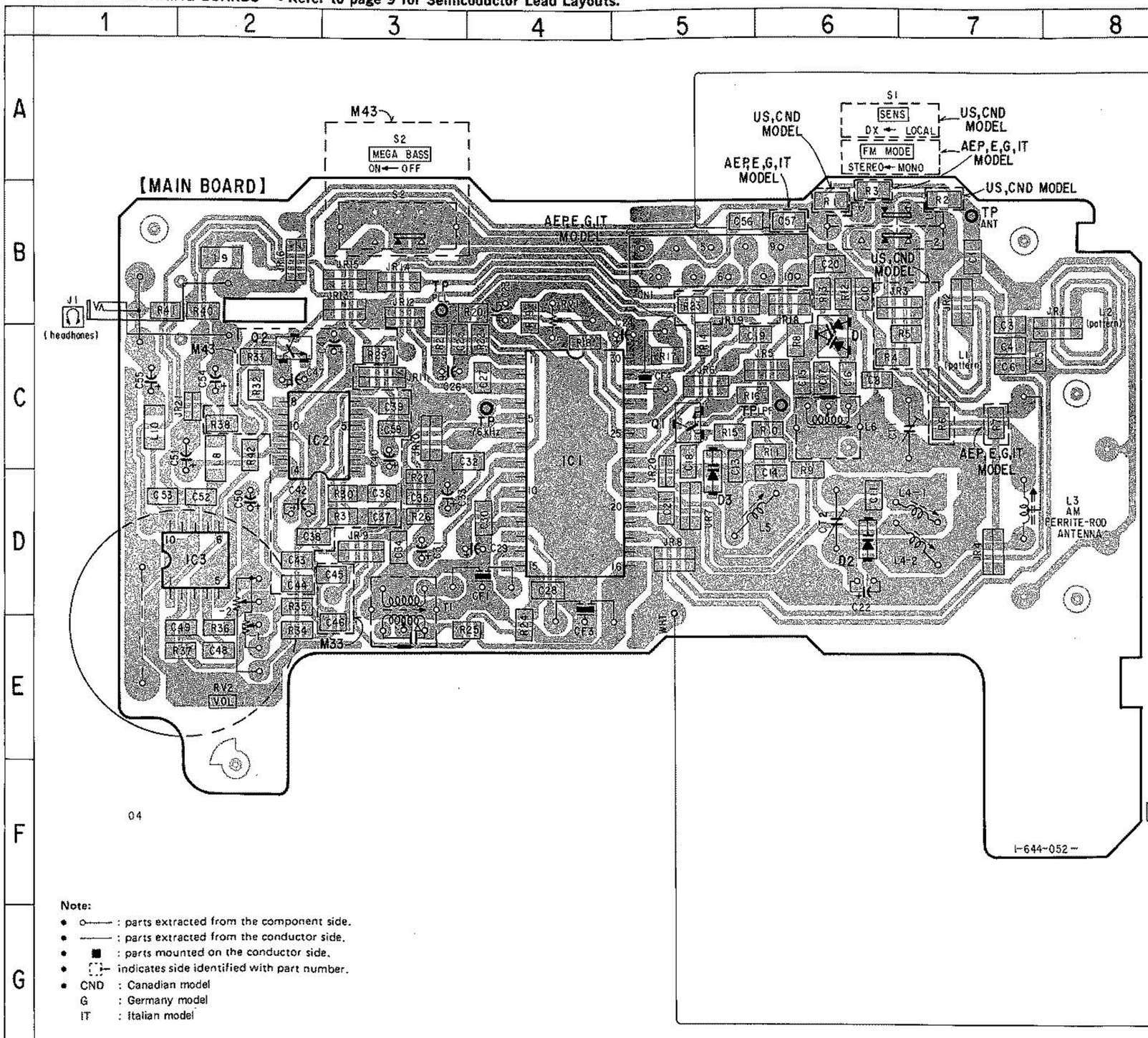
• Semiconductor Location

Ref. No.	Location
D1	C-6
D2	D-6
D3	D-5
D101(※ 1)	C-12
D102	B-12
D103	C-12
D104	E-13
D105	E-14
D107	F-10
IC1	C-4
IC2(※ 2)	C-2
IC3	D-2
IC101	C-12
IC102	E-10
IC103	C-15
Q1	C-5
Q2(※ 2)	C-2
Q101(※ 3)	E-12
Q102	E-12
Q103	E-12
Q104	C-15
Q105	C-15
Q106	E-13
Q107	D-14
Q108	D-10
Q109	E-10

※ 1 : Use on AEP, E, Germany and Italian model.
※ 2 : Use on SRF-M43.
※ 3 : Use on US and Canadian model.

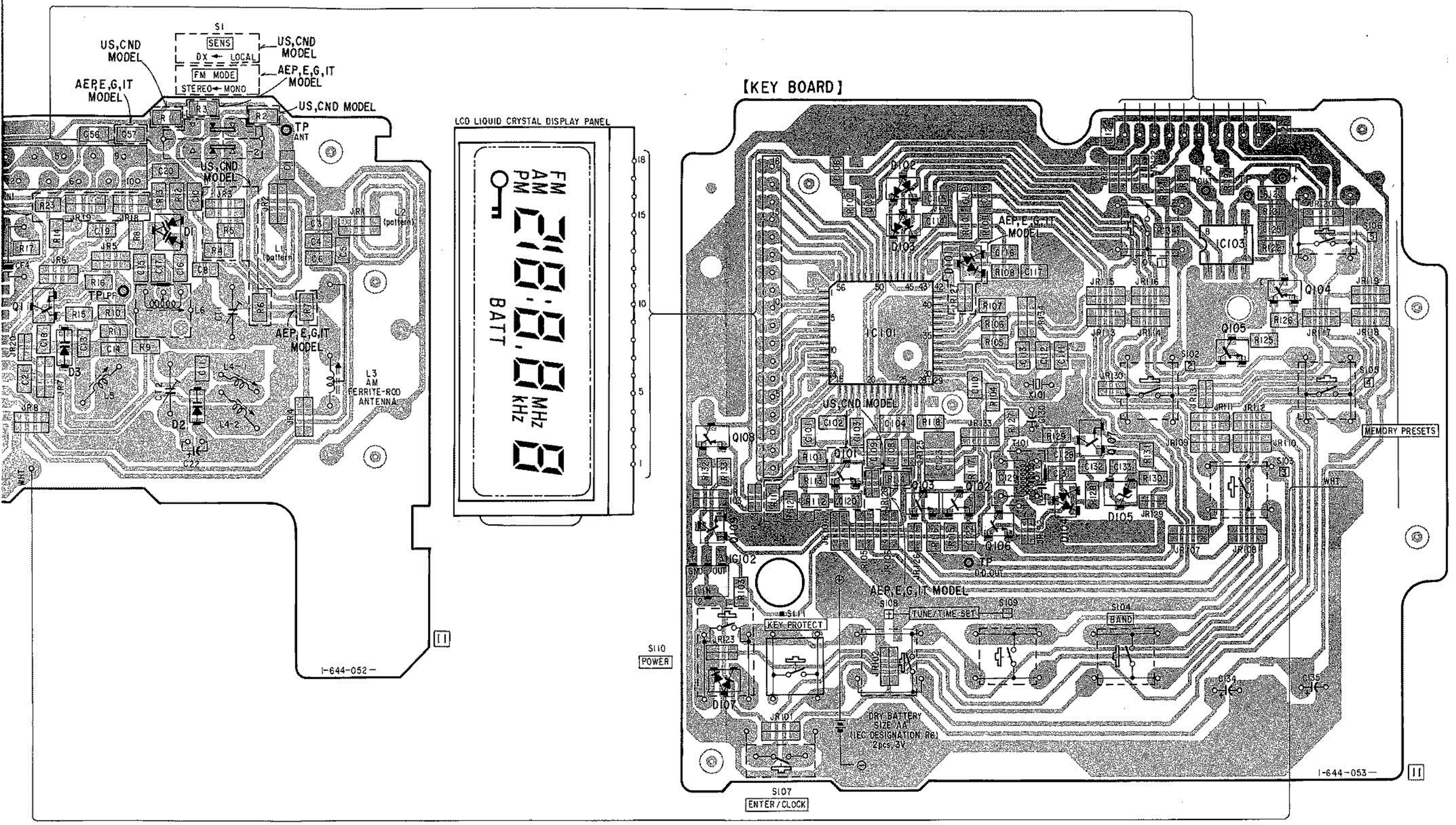
3-2. PRINTED WIRING BOARDS

• Refer to page 9 for Semicoductor Lead Layouts.

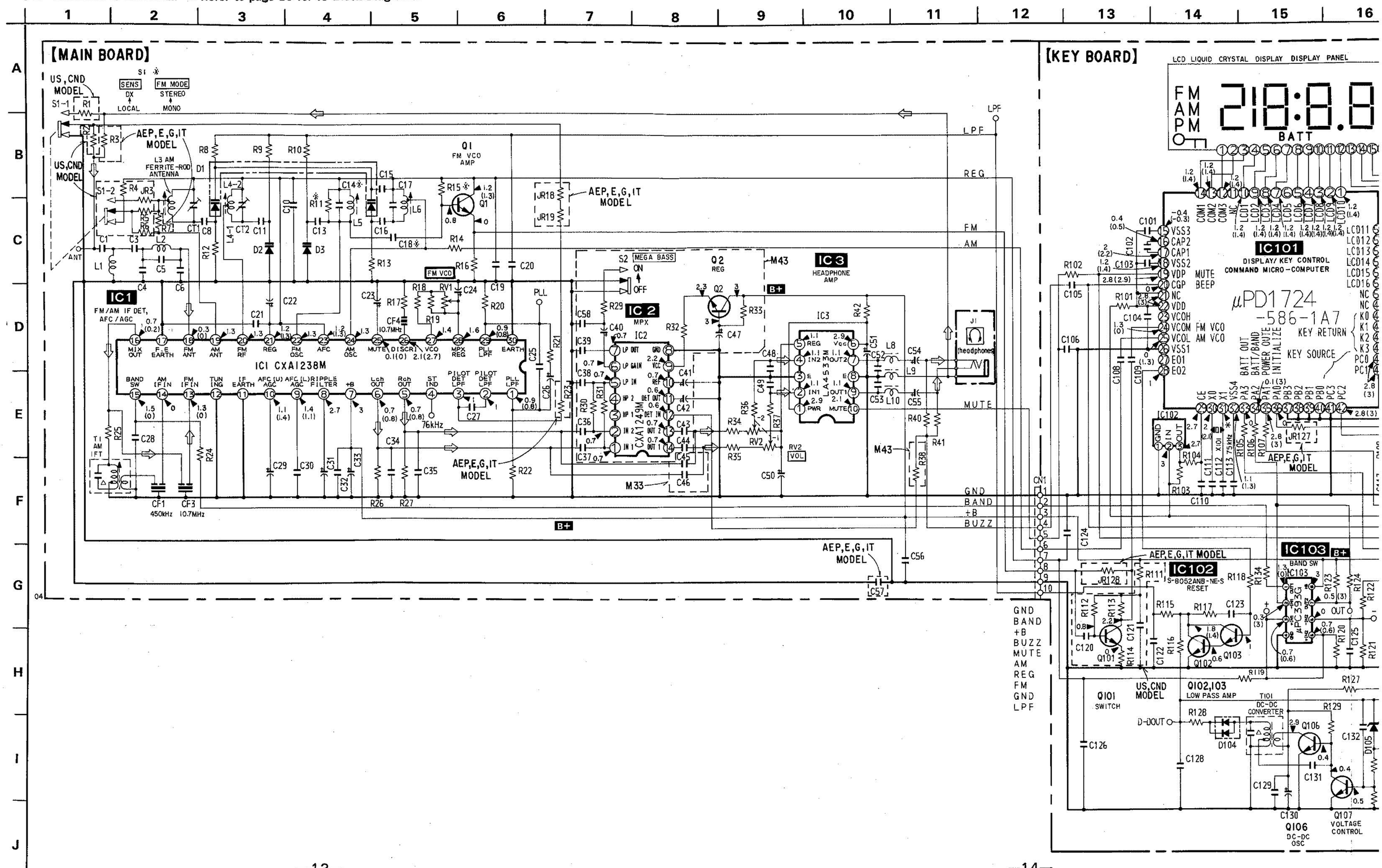


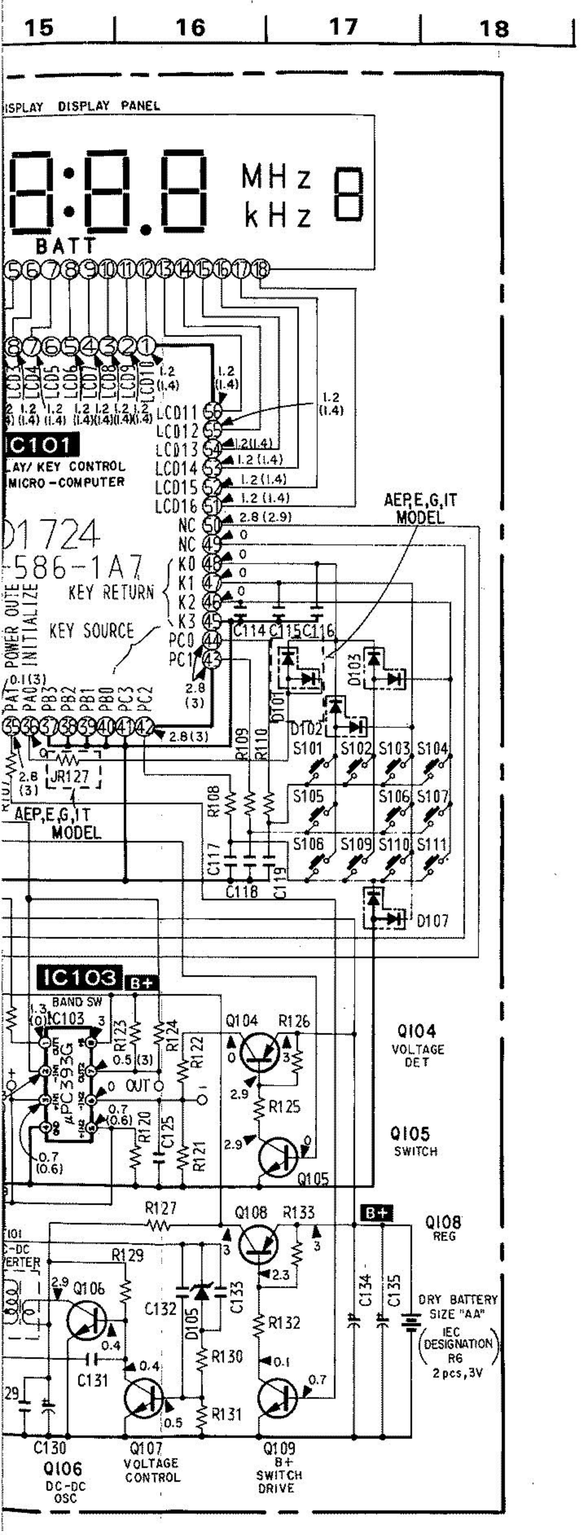
Note:
- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- [ ]— indicates side identified with part number.
- CND : Canadian model
  G : Germany model
  IT : Italian model

5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16



3-3. SCHEMATIC DIAGRAM • Refer to page 15 for IC Block Diagrams.





※		C14	C18	C36	C37	C38	C39	C40	C41	C42	C43	C44	C45	C46	C47	C57	C58	R1	R2	R3	R4	R5	R6	R7	R11	R15	R23	R29	R30	R31	R32	R33	R38	JR3	JR18	JR19	IC2	Q2	S2	S1
SRF-N33	U	9P	1P	×	×	×	×	×	×	×	×	×	○	○	×	×	×	○	○	○	×	○	○	○	×	1.8K	47K	×	×	×	×	×	×	×	○	×	×	×	×	×	SENS
	AE	7P	4P	×	×	×	×	×	×	×	×	×	○	○	×	○	×	×	×	○	×	×	×	×	2.2K	22K	○	×	×	×	×	×	×	×	○	○	×	×	×	×	FM MODE
SRF-M43	U	9P	1P	○	○	○	○	○	○	○	○	○	×	×	○	×	○	○	○	×	○	○	○	×	1.8K	47K	×	○	○	○	○	○	○	×	×	○	○	○	○	SENS
	AE	7P	4P	○	○	○	○	○	○	○	○	○	×	×	○	○	○	×	×	○	×	×	×	○	2.2K	22K	○	○	○	○	○	○	○	×	○	○	○	○	○	FM MODE

※		C120	C121	R111	R112	R113	R114	JR127	JR128	Q101	D101
SRF-M33 /M43	U	○	○	○	○	○	○	×	×	○	×
	AE	×	×	×	×	×	×	○	○	×	○

C																																								
1		SL	62pF	36		F	0.47μF ※	C101		F	0.1μF	R	1	0 Ω ※	36		1.0k Ω	R101	47 Ω	JR	1	0 Ω	JR101	0 Ω	IC	1	CXA1238M	S	1	SENS, FM MODE ※
2				37		F	0.47μF ※	102		B	0.01μF		2	0 Ω ※	37		1.0k Ω	102	10 k Ω		2	0 Ω	102	0 Ω		2	CXA1249M ※		2	MEGA BASS ※
3		SL	62pF	38		B	0.1μF ※	103		F	0.1μF		3	0 Ω ※	38		68 k Ω ※	103	1.0M Ω		3	0 Ω ※	103	0 Ω		3	LA4533M		101	MEMORY PRESETS 1
4		SL	100pF	39		B	0.1μF ※	104		F	1.0μF		4	3.3k Ω ※	39			104	100k Ω		4	0 Ω	104	0 Ω		101	μPD1724GB-586-1A7		102	MEMORY PRESETS 2
5		SL	15pF	40		25V	3.3μF ※	105		F	0.1μF		5	10 k Ω ※	40		10 k Ω	105	47 k Ω		5	0 Ω	105	0 Ω		102	S-8052ANB-NE-S		103	MEMORY PRESETS 3
6		SL	12pF	41		6.3V	10μF ※	106		SL	100pF		6	1.0k Ω ※	41		10 k Ω	106	1.0k Ω		6	0 Ω	106	0 Ω		103	μPC393G2		104	BAND
7				42		4V	33μF ※	107					7	1.0k Ω ※	42		10 Ω	107	47 k Ω		7	0 Ω	107	0 Ω					105	MEMORY PRESETS 4
8		B	0.01μF	43		F	0.47μF ※	108		B	0.01μF		8	10 k Ω				108	2.2k Ω		8	0 Ω	108	0 Ω					106	MEMORY PRESETS 5
9				44		F	0.47μF ※	109		B	1000pF		9	100k Ω				109	2.2k Ω		9	0 Ω	109	0 Ω					107	ENTER / CLOCK
10		SL	1000pF	45		F	0.47μF ※	110		SL	100pF		10	100k Ω				110	2.2k Ω		10	0 Ω	110	0 Ω					108	TUNE/TIME SET +
11		SL	1000pF	46		F	0.47μF ※	111		SL	33pF		11	※ Ω				111	100 Ω ※		11	0 Ω	111	0 Ω	Q	1	2SC2223-FI3		109	TUNE/TIME SET −
12				47		4V	100μF ※	112		SL	15pF		12	1.0M Ω				112	100k Ω ※		12	0 Ω	112	0 Ω		2	2SC2412K ※		110	POWER
13		SL	1000pF	48		B	0.01μF	113		F	0.1μF		13	1.0M Ω				113	330 Ω ※		13	0 Ω	113	0 Ω		101	2SC2223-FI3 ※		111	KEY PROTECT
14		SL	※ F	49		B	0.01μF	114		SL	100pF		14	10 k Ω				114	10 Ω ※		14	0 Ω	114	0 Ω		102	2SC2412K			
15		B	0.01μF	50		6.3V	10μF	115		SL	100pF		15	※ Ω				115	10 k Ω		15	0 Ω	115	0 Ω		103	2SC2412K			
16		SL	390pF	51		4V	220μF	116		SL	100pF		16	47 Ω				116	100k Ω		16	0 Ω	116	0 Ω		104	2SA1037K	CT	1	φ6 10pF Trimmer
17		SL	5pF	52		B	0.1μF	117		SL	100pF		17	100 Ω				117	10 k Ω		17		117	0 Ω		105	2SC2412K		2	φ6 10pF Trimmer
18		SL	※ F	53		B	0.1μF	118		SL	100pF		18	2.2k Ω	L	1	FM BPF (Pattern)	118	10 k Ω		18	0 Ω ※	118	0 Ω		106	2SC2412K			
19		B	1000pF	54		4V	100μF	119		SL	100pF		19	8.2k Ω		2	FM BPF (Pattern)	119	100k Ω		19	0 Ω ※	119	0 Ω		107	2SC2412K	CF	1	450kHz CF
20		B	1000pF	55		4V	100μF	120		B	1000pF ※		20	220k Ω		3	AM ANT Coil	120	100k Ω		20	0 Ω	120	0 Ω		108	2SB1197K		2	
21		B	0.01μF	56		B	1000pF	121		B	0.01μF ※		21	2.2k Ω	4-1		FM RF Coil φ3-T3.5R	121	270k Ω		21	0 Ω	121	0 Ω		109	2SC2412K		3	10.70MHz CF
22		6.3V	10μF	57		B	1000pF ※	122		SL	100pF		22	220k Ω	4-2		FM RF Coil φ3-T4.5R	122	56 k Ω				122	0 Ω					4	10.70MHz Discri.
23		25V	3.3μF	58		B	0.01μF ※	123		R	0.33μF		23	22 k Ω ※	5		FM OSC Coil φ3-T5.5R	123	10 k Ω				123	0 Ω						
24		6.3V	10μF					124		B	1000pF		24	1.0k Ω	6		AM OSC Coil	124	1.0k Ω				124	0 Ω					RV	1	φ4 10kΩ
25		F	0.47μF					125		B	0.1μF		25	2.2k Ω	7			125	1.0k Ω				125	0 Ω	D	1	KV1560		2	φ19 10kΩ/10kΩ(VOL)
26		16V	4.7μF					126		B	1000pF		26	3.3k Ω	8		4.7μH	126	470k Ω				126	0 Ω		2	1T-32			
27		F	1.0μF					127					27	3.3k Ω	9		4.7μH	127	47 Ω				127	0 Ω ※		3	1T-32	X	101	φ3.0 75kHz X'tal
28		B	0.01μF					128		F	1.0μF		28		10		4.7μH	128	1.0k Ω				128	0 Ω ※		4				
29		16V	4.7μF					129		F	0.1μF		29	1.5k Ω ※				129	47 k Ω				129	0 Ω		101	DAP202K ※	CN	1	1.5mm 10pin
30		F	1.0μF					130		6.3V	10μF		30	100k Ω ※				130	100k Ω				130	0 Ω		102	DAP202K			
31		6.3V	10μF					131		SL	27pF		31	100k Ω ※				131	47 k Ω				131	0 Ω		103	DAP202K	J	1	φ3.6 3P(headphones)
32		B	0.01μF					132		B	0.01μF		32	100 Ω ※				132	1.0k Ω				132	0 Ω		104	DAP202K			
33		4V	100μF					133		B	0.1μF		33	1.0k Ω ※	T	1	450kHz IFT	133	470k Ω				133	0 Ω		105	RD13M-B2	LCD		18x39x2.6mm 18pin
34		B	0.022μF					134		4V	220μF		34	2.2k Ω	101		DC-DC Converter	134	0 Ω				134	0 Ω		106				
35		B	0.022μF					135		4V	470μF		35	2.2k Ω												107	DAP202K	BATT		R6x2 3V

Note :

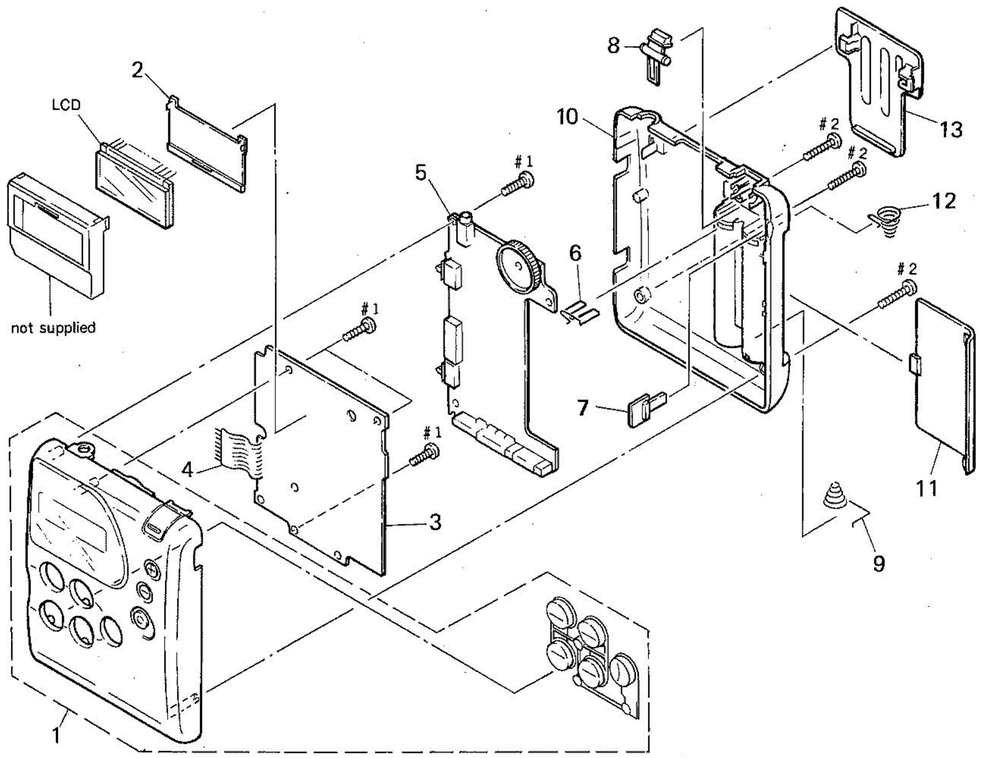
- pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ¼ W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line
- ▭ : adjustment for repair.
- Power voltage is dc 3V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
  ✳ : Impossible measurement point
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
- CND : Canadian model
  G : Germany model
  IT : Italian model

SECTION 4
EXPLODED VIEW

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list is given in the last of this parts list.

· G : Germany model
IT : Italian model

4-1. CABINET SECTION

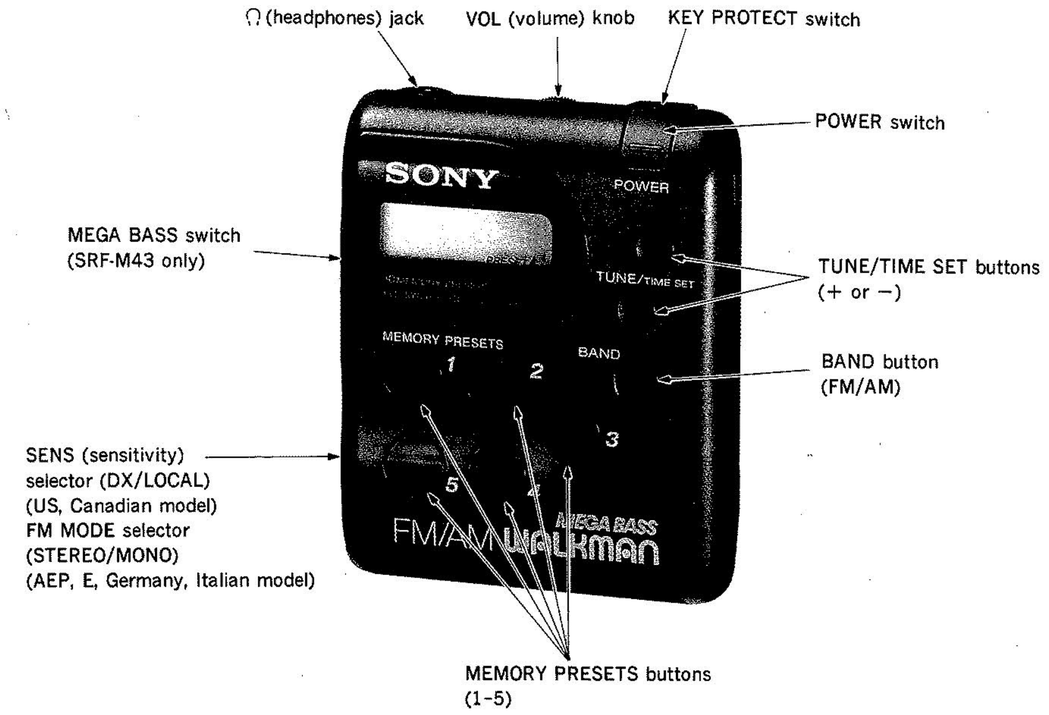


Ref. No.	Part No.	Description	Remark
1	A-3635-729-A	CABINET (FRONT) ASSY (M43) (SILVER)	
1	A-3635-731-A	CABINET (FRONT) ASSY (M33:AEP) (SILVER)	
1	A-3635-756-A	CABINET (FRONT) ASSY (M33) (BLACK)	
2	3-378-200-01	HOLDER (LCD)	
* 3	A-3679-382-A	KEY BOARD, COMPLETE (US, Canadian)	
* 3	A-3679-395-A	KEY BOARD, COMPLETE (AEP, E, G, IT)	
4	1-690-983-11	CORD, RIBBON (10 CORE)	
* 5	A-3661-547-A	MAIN BOARD, COMPLETE (M43:US, Canadian)	
* 5	A-3661-551-A	MAIN BOARD, COMPLETE (M33:US)	
* 5	A-3661-570-A	MAIN BOARD, COMPLETE (M33:AEP, E, G)	
* 5	A-3661-572-A	MAIN BOARD, COMPLETE (M43:AEP, E, IT)	
6	3-378-193-01	TERMINAL (+), BATTERY	
7	3-378-191-01	KNOB (ENTER/CLOCK) (M33) (BLACK)	
7	3-378-191-11	KNOB (ENTER/CLOCK) (M33:AEP, M43) (SILVER)	
8	3-378-194-01	KNOB (KEY PROTECT)	
9	3-378-192-01	TERMINAL, BATTERY	
10	3-378-206-01	CABINET (REAR) (M33:US) (BLACK)	
10	3-378-206-11	CABINET (REAR) (M33:AEP, E, G) (BLACK)	
10	3-378-206-21	CABINET (REAR) (M43:US, Canadian) (SILVER)	
10	3-378-206-31	CABINET (REAR) (M43:AEP, E, IT) (SILVER)	
10	3-378-206-41	CABINET (REAR) (M33:AEP) (SILVER)	
11	3-378-204-01	LID, BATTERY CASE (M33) (BLACK)	
11	3-378-204-11	LID, BATTERY CASE (M33:AEP, M43) (SILVER)	
12	3-378-197-01	TERMINAL (-), BATTERY	
13	3-375-762-11	CLIP, BELT	
LCD	1-809-710-11	DISPLAY PANEL, LIQUID CRYSTAL	

SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1. LOCATION OF CONTROLS



KEY

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

· G : Germany model
IT : Italian model

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description	Remark
*	A-3679-382-A	KEY BOARD, COMPLETE (US, Canadian)	
*	A-3679-395-A	KEY BOARD, COMPLETE (AEP, E, G, IT)	
		**********	
	1-690-983-11	CORD, RIBBON (10 CORE)	
	3-378-200-01	HOLDER (LCD)	
		< CAPACITOR >	
C101	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C102	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C103	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C104	1-162-638-11	CERAMIC CHIP 1uF 16V	
C105	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C106	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C108	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C109	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C110	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C111	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C112	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	
C113	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C114	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C115	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C116	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C117	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C118	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C119	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C120	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V (US, Canadian)	
C121	1-164-232-11	CERAMIC CHIP 0.01uF 50V (US, Canadian)	
C122	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C123	1-164-006-11	CERAMIC CHIP 0.33uF 10% 16V	
C124	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C125	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C126	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C128	1-164-346-11	CERAMIC CHIP 1uF 16V	
C129	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C130	1-126-157-11	ELECT 10uF 20% 16V	
C131	1-163-103-00	CERAMIC CHIP 27PF 5% 50V	
C132	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C133	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C134	1-124-434-00	ELECT 220uF 20% 4V	
C135	1-126-518-11	ELECT 470uF 20% 4V	
		< DIODE >	
D101	8-719-104-34	DIODE 1S2836 (AEP, E, G, IT)	
D102	8-719-104-34	DIODE 1S2836	
D103	8-719-104-34	DIODE 1S2836	
D104	8-719-104-34	DIODE 1S2836	
D105	8-719-106-80	DIODE RD13M-B2	
D107	8-719-104-34	DIODE 1S2836	
		< IC >	
IC101	8-759-077-19	IC uPD1724GB-586-1A7	
IC102	8-759-945-21	IC S-8052ANB-NE-S	
IC103	8-759-100-93	IC uPC393G2	
		< JUMPER RESISTOR >	
JR101	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR102	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR103	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR104	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR105	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR106	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR107	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR108	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR109	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR110	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR111	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR112	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR113	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR114	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR115	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR116	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR117	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR118	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR119	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR120	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR121	1-216-296-00	METAL CHIP 0 5% 1/8W	

KEY

Ref.No.	Part No.	Description	Remark
JR122	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR123	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR124	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR125	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR126	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR127	1-216-295-00	METAL CHIP 0 5% 1/10W (AEP, E, G, IT)	
JR128	1-216-295-00	METAL CHIP 0 5% 1/10W (AEP, E, G, IT)	
JR129	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR130	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR131	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR132	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR133	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR134	1-216-296-00	METAL CHIP 0 5% 1/8W	
		< LIQUID CRYSTAL DISPLAY >	
LCD	1-809-710-11	DISPLAY PANEL, LIQUID CRYSTAL	
		< TRANSISTOR >	
Q101	8-729-102-07	TRANSISTOR 2SC2223-F13 (US, Canadian)	
Q102	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q103	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q104	8-729-216-22	TRANSISTOR 2SA1162	
Q105	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q106	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q107	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q108	8-729-904-87	TRANSISTOR 2SB1197K-R	
Q109	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		< RESISTOR >	
R101	1-216-017-00	METAL CHIP 47 5% 1/10W	
R102	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R103	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R104	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R105	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R106	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R107	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R108	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R109	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R110	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R111	1-216-025-00	METAL CHIP 100 5% 1/10W (US, Canadian)	
R112	1-216-097-00	METAL CHIP 100K 5% 1/10W (US, Canadian)	
R113	1-216-037-00	METAL CHIP 330 5% 1/10W (US, Canadian)	
R114	1-216-001-00	METAL CHIP 10 5% 1/10W (US, Canadian)	
R115	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R116	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R117	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R118	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R119	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R120	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R121	1-216-107-00	METAL CHIP 270K 5% 1/10W	
R122	1-216-091-00	METAL CHIP 56K 5% 1/10W	
R123	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R124	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R125	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R126	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R127	1-216-017-00	METAL CHIP 47 5% 1/10W	
R128	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R129	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R130	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R131	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R132	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R133	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R134	1-216-295-00	METAL CHIP 0 5% 1/10W	
		< SWITCH >	
S101	1-553-856-00	SWITCH, KEY BOARD (MEMORY PRESETS 1)	
S102	1-553-856-00	SWITCH, KEY BOARD (MEMORY PRESETS 2)	
S103	1-553-856-00	SWITCH, KEY BOARD (MEMORY PRESETS 3)	
S104	1-553-856-00	SWITCH, KEY BOARD (BAND)	
S105	1-553-856-00	SWITCH, KEY BOARD (MEMORY PRESETS 4)	
S106	1-553-856-00	SWITCH, KEY BOARD (MEMORY PRESETS 5)	
S107	1-572-499-11	SWITCH, TACTIL (ENTER/CLOCK)	
S108	1-553-856-00	SWITCH, KEY BOARD (TUNE/TIME SET +)	
S109	1-553-856-00	SWITCH, KEY BOARD (TUNE/TIME SET -)	
S110	1-553-856-00	SWITCH, KEY BOARD (POWER)	
S111	1-554-303-21	SWITCH, TACTILE (KEY PROTECT)	
		< TRANSFORMER >	
T101	1-449-138-11	TRANSFORMER, DC-DC CONVERTER	
		< VIBRATOR >	
X101	1-567-769-11	VIBRATOR, CRYSTAL (75kHz)	

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MAIN

Ref. No.	Part No.	Description			Remark
JR3	1-216-296-00	METAL CHIP (US, Cananian)	0	5%	1/8W
JR4	1-216-296-00	METAL CHIP	0	5%	1/8W
JR5	1-216-296-00	METAL CHIP	0	5%	1/8W
JR6	1-216-296-00	METAL CHIP	0	5%	1/8W
JR7	1-216-296-00	METAL CHIP	0	5%	1/8W
JR8	1-216-296-00	METAL CHIP	0	5%	1/8W
JR9	1-216-296-00	METAL CHIP	0	5%	1/8W
JR10	1-216-296-00	METAL CHIP	0	5%	1/8W
JR11	1-216-296-00	METAL CHIP	0	5%	1/8W
JR12	1-216-296-00	METAL CHIP	0	5%	1/8W
JR13	1-216-296-00	METAL CHIP	0	5%	1/8W
JR14	1-216-296-00	METAL CHIP	0	5%	1/8W
JR15	1-216-296-00	METAL CHIP	0	5%	1/8W
JR16	1-216-296-00	METAL CHIP	0	5%	1/8W
JR18	1-216-296-00	METAL CHIP (AEP, E, G, IT)	0	5%	1/8W
JR19	1-216-296-00	METAL CHIP (AEP, E, G, IT)	0	5%	1/8W
JR20	1-216-295-00	METAL CHIP	0	5%	1/10W
JR21	1-216-295-00	METAL CHIP	0	5%	1/10W
		< COIL >			
L3	1-402-620-11	ANTENNA, FERRITE-ROD (MW)			
L4-1	1-428-771-11	COIL, AIR-CORE			
L4-2	1-428-772-11	COIL, AIR-CORE			
L5	1-428-817-11	COIL, AIR-CORE			
L6	1-406-269-11	COIL (OSC)			
L8	1-410-200-31	INDUCTOR CHIP	4.7uH		
L9	1-410-200-31	INDUCTOR CHIP	4.7uH		
L10	1-410-200-31	INDUCTOR CHIP	4.7uH		
		< TRANSISTOR >			
Q1	8-729-102-07	TRANSISTOR	2SC2223-F13		
Q2	8-729-120-28	TRANSISTOR	2SC1623-L5L6 (M43)		
		< RESISTOR >			
R1	1-216-295-00	METAL CHIP (US, Canadian)	0	5%	1/10W
R2	1-216-295-00	METAL CHIP (US, Canadian)	0	5%	1/10W
R3	1-216-295-00	METAL CHIP (AEP, E, G, IT)	0	5%	1/10W
R4	1-216-061-00	METAL CHIP (US, Canadian)	3.3K	5%	1/10W
R5	1-216-073-00	METAL CHIP (US, Canadian)	10K	5%	1/10W
R6	1-216-049-00	METAL CHIP (US, Canadian)	1K	5%	1/10W
R7	1-216-049-00	METAL CHIP (AEP, E, G, IT)	1K	5%	1/10W
R8	1-216-073-00	METAL CHIP	10K	5%	1/10W
R9	1-216-097-00	METAL CHIP	100K	5%	1/10W
R10	1-216-097-00	METAL CHIP	100K	5%	1/10W
R11	1-216-055-00	METAL CHIP (US, Canadian)	1.8K	5%	1/10W
R11	1-216-057-00	METAL CHIP (AEP, E, G, IT)	2.2K	5%	1/10W
R12	1-216-121-00	METAL CHIP	1M	5%	1/10W
R13	1-216-121-00	METAL CHIP	1M	5%	1/10W
R14	1-216-073-00	METAL CHIP	10K	5%	1/10W
R15	1-216-081-00	METAL CHIP (AEP, E, G, IT)	22K	5%	1/10W
R15	1-216-089-00	METAL CHIP (US, Canadian)	47K	5%	1/10W
R16	1-216-017-00	METAL CHIP	47	5%	1/10W
R17	1-216-025-00	METAL CHIP	100	5%	1/10W
R18	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R19	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R20	1-216-105-00	METAL CHIP	220K	5%	1/10W
R21	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R22	1-216-105-00	METAL CHIP	220K	5%	1/10W
R23	1-216-081-00	METAL CHIP (AEP, E, G, IT)	22K	5%	1/10W
R24	1-216-049-00	METAL CHIP	1K	5%	1/10W
R25	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R26	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R27	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R29	1-216-053-00	METAL CHIP	1.5K	5%	1/10W (M43)
R30	1-216-097-00	METAL CHIP	100K	5%	1/10W (M43)
R31	1-216-097-00	METAL CHIP	100K	5%	1/10W (M43)
R32	1-216-025-00	METAL CHIP	100	5%	1/10W (M43)
R33	1-216-049-00	METAL CHIP	1K	5%	1/10W (M43)
R34	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R35	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R36	1-216-049-00	METAL CHIP	1K	5%	1/10W
R37	1-216-049-00	METAL CHIP	1K	5%	1/10W
R38	1-216-093-00	METAL CHIP	68K	5%	1/10W (M43)
R40	1-216-073-00	METAL CHIP	10K	5%	1/10W
R41	1-216-073-00	METAL CHIP	10K	5%	1/10W
R42	1-216-001-00	METAL CHIP	10	5%	1/10W
		< VARIABLE RESISTOR >			
RV1	1-230-523-11	RES, ADJ, METAL 10K			
RV2	1-241-914-11	RES, VAR, CARBON 10K/10K (VOL)			

MAIN

Ref. No.	Part No.	Description			Remark
*	A-3661-547-A	MAIN BOARD, COMPLETE (M43:US, Canadian)			
*	A-3661-551-A	MAIN BOARD, COMPLETE (M33:US)			
*	A-3661-570-A	MAIN BOARD, COMPLETE (M33:AEP, E, G)			
*	A-3661-572-A	MAIN BOARD, COMPLETE (M43:AEP, E, IT)			
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		< CAPACITOR >			
C1	1-163-112-00	CERAMIC CHIP	62PF	5%	50V
C3	1-163-112-00	CERAMIC CHIP	62PF	5%	50V
C4	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C5	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C6	1-163-095-00	CERAMIC CHIP	12PF	5%	50V
C8	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C10	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C11	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C13	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C14	1-163-090-00	CERAMIC CHIP (AEP, E, G, IT)	7PF		50V
C14	1-163-092-00	CERAMIC CHIP (US, Canadian)	9PF	0.25PF	50V
C15	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C16	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C17	1-163-088-00	CERAMIC CHIP	5PF		50V
C18	1-163-083-00	CERAMIC CHIP (US, Canadian)	1PF		50V
C18	1-163-087-00	CERAMIC CHIP (AEP, E, G, IT)	4PF		50V
C19	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C20	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C21	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C22	1-126-157-11	ELECT	10uF	20%	16V
C23	1-126-162-11	ELECT	3.3uF	20%	50V
C24	1-126-157-11	ELECT	10uF	20%	16V
C25	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C26	1-126-163-11	ELECT	4.7uF	20%	50V
C27	1-164-346-11	CERAMIC CHIP	1uF		16V
C28	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C29	1-126-163-11	ELECT	4.7uF	20%	50V
C30	1-164-346-11	CERAMIC CHIP	1uF		16V
C31	1-126-157-11	ELECT	10uF	20%	16V
C32	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C33	1-124-433-00	ELECT	100uF	20%	4V
C34	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C35	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C36	1-164-005-11	CERAMIC CHIP	0.47uF		25V (M43)
C37	1-164-005-11	CERAMIC CHIP	0.47uF		25V (M43)
C38	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V (M43)
C39	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V (M43)
C40	1-126-162-11	ELECT	3.3uF	20%	50V (M43)
C41	1-126-157-11	ELECT	10uF	20%	16V (M43)
C42	1-124-431-00	ELECT	33uF	20%	4V (M43)
C43	1-164-005-11	CERAMIC CHIP	0.47uF		25V (M43)
C44	1-164-005-11	CERAMIC CHIP	0.47uF		25V (M43)
C45	1-164-005-11	CERAMIC CHIP	0.47uF		25V (M33)
C46	1-164-005-11	CERAMIC CHIP	0.47uF		25V (M33)
C47	1-124-433-00	ELECT	100uF	20%	4V (M43)
C48	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C49	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C50	1-126-157-11	ELECT	10uF	20%	16V
C51	1-124-434-00	ELECT	220uF	20%	4V
C52	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C53	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C54	1-124-433-00	ELECT	100uF	20%	4V
C55	1-124-433-00	ELECT	100uF	20%	4V
C56	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C57	1-163-009-11	CERAMIC CHIP (AEP, E, G, IT)	0.001uF	10%	50V
C58	1-164-232-11	CERAMIC CHIP	0.01uF		50V (M43)
		< FILTER >			
CF1	1-579-638-11	FILTER, CERAMIC (450kHz)			
CF3	1-579-552-11	FILTER, CERAMIC (10.7MHz)			
CF4	1-579-552-11	FILTER, CERAMIC (10.7MHz)			
		< CONNECTOR >			
CN1	1-695-028-11	HOUSING, CONNECTOR 10P			
		< TRIMMER >			
CT1	1-141-304-21	CAP, TRIMMER	10PF		
CT2	1-141-304-21	CAP, TRIMMER	10PF		
		< DIODE >			
D1	8-719-951-05	DIODE	KV1560		
D2	8-719-949-46	DIODE	1T32		
D3	8-719-949-46	DIODE	1T32		
		< IC >			
IC1	8-752-037-51	IC	CXA1238M		
IC2	8-759-805-09	IC	CXA1249M (M43)		
IC3	8-759-802-75	IC	LA4533M		
		< JACK >			
J1	1-563-857-11	JACK, HEADPHONE (headphones)			
		< JUMPER RESISTOR >			
JR1	1-216-296-00	METAL CHIP	0	5%	1/8W
JR2	1-216-296-00	METAL CHIP	0	5%	1/8W